Claims

1. A disk drive which reads data while a disk is rotating in a forward direction comprising:

a spindle motor that selectably rotates a disk in the forward or a reverse direction;

a slider with air-bearing features on an air-bearing surface, the air-bearing features being designed to develop an air-bearing when the disk is rotated in the forward direction; and

a controller that selectably burnishes the area of the air-bearing surface where a magnetic transducer is located by rotating the disk in the reverse direction for a plurality of rotations.

2. The disk drive of claim 1 wherein the controller selectably burnishes at least the area of the air-bearing surface where magnetic transducer is located by rotating the disk in the forward direction for a plurality of rotations after rotating the disk in the reverse direction for a plurality of rotations.

3. The disk drive of claim 1 wherein the controller measures a parameter of a magnetic transducer in the slider while the burnishing is being performed and terminates the burnishing when the parameter falls into a selected range.

4. The disk drive of claim 3 further the parameter is $\Delta MRR/MRR$.

5. The disk drive of claim 1 wherein the slider has an overcoat over the magnetic transducer before the burnishing has been performed and wherein the burnishing continues until the overcoat has been substantially reduced in thickness over the magnetic transducer.

6. The disk drive of claim 1 wherein the slider has an overcoat over the magnetic transducer before the burnishing has been performed and wherein the burnishing step continues until the overcoat has essentially been removed over the magnetic transducer.

7. The disk drive of claim 1 wherein the slider has a nonplanar discontinuity between a substrate and components of a magnetic transducer on the air-bearing surface before the burnishing has been performed and wherein the burnishing continues until the nonplanar discontinuity has been reduced.

8. The disk drive of claim 1 wherein the slider has a nonplanar discontinuity between a substrate and components of a magnetic transducer on the air-bearing surface before the burnishing step has been performed and wherein the burnishing step continues until the nonplanar discontinuity has essentially been removed.

9. The disk drive of claim 1 wherein the burnishing further comprises repeatedly sweeping the slider over a range of positions on the disk surface to reduce disk damage.

10. The disk drive of claim 1 further comprising an arm to which the slider is attached and a compressible crash-stop and where the controller positions the slider on an area on the disk not used for storing data by urging the arm against the crash-stop to compress the crash-stop.

11. The disk drive of claim 1 further comprising a removable crash-stop and where the controller positions the slider on an area on the disk not used for storing data by moving the arm into the crash-stop position so that the slider is on an area on the disk not used for storing data.

12. A method of burnishing a slider having air-bearing features that develop an air-bearing when a disk is rotated under the slider in a forward direction, comprising the steps of:

rotating the disk in a reverse direction that is opposite to the forward direction; and

burnishing at least part of the air-bearing surface of the slider by positioning the air-bearing surface of the slider on a surface of the disk for a plurality of rotations while disk is rotating in the reverse direction.

13. The method of claim 12 wherein the step of burnishing is followed by the step of burnishing the air-bearing surface of the slider by rotating the disk in the forward direction for a plurality of rotations while the slider is flying lower than an operational height.

14. The method of claim 12 further comprising measuring a parameter of a magnetic transducer in the slider while the burnishing step is being performed and terminating the burnishing step when the parameter falls into a selected range.

15. The method of claim 14 wherein the parameter comprises $\Delta MRR/MRR$.

16. The method of claim 12 wherein the slider has an overcoat over a magnetic transducer on the air-bearing surface before the burnishing step has been performed and wherein the burnishing step continues until the overcoat has been substantially reduced in thickness over the magnetic transducer.

17. The method of claim 12 wherein the slider has an overcoat over a magnetic transducer on the air-bearing surface before the burnishing step has been performed and wherein the burnishing step continues until the overcoat has essentially been removed over the magnetic transducer.

18. The method of claim 12 wherein the slider has a nonplanar discontinuity between a substrate and components of a magnetic transducer on the air-bearing surface before the burnishing step has been performed and wherein the burnishing step continues until the nonplanar discontinuity has been reduced.

19. The method of claim 12 wherein the slider has a nonplanar discontinuity between a substrate and components of a magnetic transducer on the air-bearing surface before the burnishing step has been performed and wherein the burnishing step continues until the nonplanar discontinuity has essentially been removed.

20. The method of claim 12 wherein the burnishing step further comprises sweeping the slider over a range of positions on the disk surface to reduce disk damage.

21. The method of claim 12 further comprising positioning the slider during burnishing on a predetermined area on the disk not used for storing data by compressing a crash-stop.

22. The method of claim 12 further comprising removing a crash-stop to allow the slider to move to a predetermined area on the disk not used for storing data.

23. The method of claim 12 further comprising removing a load-unload ramp to allow the slider to move to a predetermined area on the disk not used for storing data.

24. A method of cleaning debris from a thin film disk:

rotating the disk;

positioning an air-bearing surface of a slider on a disk surface, the slider having air-bearing features on the air-bearing surface that are designed to develop an air-bearing when the disk is rotated under the air-bearing features in a first direction, the slider being orientated on the disk with the disk rotating in a second direction opposite from the first direction so that the air-bearing does not develop; and

removing debris from the disk surface by sweeping the slider over selected areas of the disk surface while the disk is rotating in the second direction.